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ICL to allow 2900s to run VME and DME simultaneously

USERS of ICL 2900 systems could make considerable hardware savings following the introduction of "time slicing" firmware currently under development by ICL that will enable either of the VME operating systems to run simultaneously with DME on the same machine. The facility is expected to be introduced next year.

If ICL can make such a system work efficiently it would represent a major advance in computer design, because it would provide ICL users with similar facilities to those offered by IBM's VM/370 operating system, but under much more difficult circumstances.

Under VM/370, two or more IBM operating systems can run side by side on the same machine, but all the operating systems use the same 370 instruction set.

In order to run a VME and a George operating system side by side on the same machine, it would be necessary to have both the 2900 and the 1900 instruction sets resident simultaneously. Main store would be unlikely to be shared between the two operating systems, but most of the peripherals could be shared.

Meanwhile ICL now appears to be getting its VME/K act together after several years of troubled development. The major rewrite, KSV 16, sometimes known as "Son of K" is now on controlled release and the next version, KSV 17, is due for controlled release in June and general release by the end of the year. KSV 17 will offer "advances in data management and teleprocessing" in addition to support for IDMS and TPMS.

Some VME/K users believe that KSV 17 will be the first version of K to be pushed heavily by ICL and that the next release, KSV 18, will offer better communications facilities than VME/B.

In 1976 ICL introduced the emulation KMEEP to ease conversion to VME/K.

Anti-trust settlement talks snag

TALKS between IBM and the Justice Department on an out-of-court settlement of the US government's anti-trust suit against the company have stalled, suggesting that the predicted settlement by June in the 10-year-old suit is now unlikely.

The Justice Department has stated publicly that only divestiture — a break-up of the company — would satisfy the government and IBM says this is unacceptable.

DAP for BNOC

THE first commercial user of ICL's Distributed Array Processor is the British National Oil Corp. The DAP will be installed this year and used with a 2976 ordered last year as part of a deal under which ICL and the corporation would develop 2900 software for the oil industry (CW, June 21, 1979).

Easy-to-use software on rivals to IBM's System 38

● From front page

discs integrated with the processor. The tape deck from the BC/7 small business computer is offered with System 80. There is also a new floppy disc drive.

Most important features of the new Release 7 of the OS/3 operating system are support for the Escort applications development language previously unique to the BC/7 and utilities to give the operating system an interactive, transaction processing work station orientation.

There are no new instructions in the System 80 set, unlike the ICL ME29, which adds to the 2903 set. The new release of OS/3 features language enhancements for work station operation, a dialogue processor, 14 job partitions, a single file access method for flat, sequential and indexed sequential files and an interactive system generation facility.

With a price of under £50,000 for 256K-byte processor, floppy drive, one fixed disc, combined operator and maintenance console and workstation and a line printer, the System 80 starts rather higher than the ICL or Honeywell machine.

The Honeywell DPS 4, which extends and takes over from the Italian Level 62, features a new multiple-processor achitecture and new operating system, GCOS 4.

A DPS 4 system can have up to three CPUs, one or two unit record/console processors, one or two disc processors, one or two main memory processors and up to three network processors.

Minimum configuration with one of each of the first three types of processor, 256K-bytes of memory, 56-megabytes of fixed and exchangeable disc storage, console, two work stations and printer costs just under £30,000.

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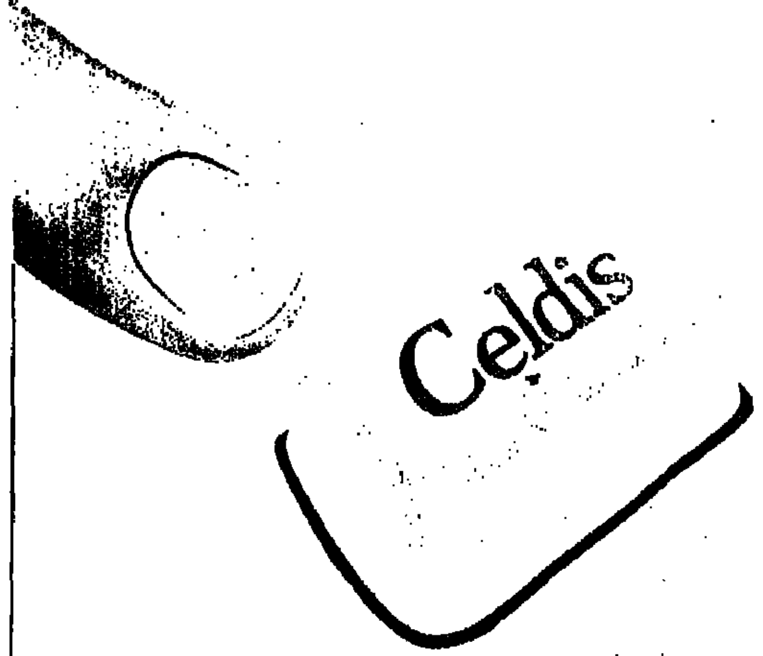

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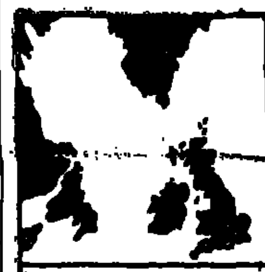

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Govt cuts NCC funding

THE Department of Industry is cutting its funding of National Computing Centre projects from 100% to 50%. The move is seen by the government as bringing NCC support into line with the 50-50 funding of projects with private industry and research associations.

Government support for the NCC comes in the form of development contracts from the Computers, Systems and Electronics Requirements Board. In 1978-79 this support was £1.3 million, or 30% of the NCC's total income.

"The new policy will not affect us too strongly this year but will have a significant impact next year and become critical the year after," said David Fairbairn, the NCC's new director. "This year the 50% funding will apply to between 15% and 20% of our government-backed activities. Next year it will apply to well over half and after that to all projects. In the 1980-81 financial year government funds will be less than £900,000. Things will be tight but not impossible."

Fairbairn said that as it was not a profit-making organisation the NCC could put any profit it made — last year it was £82,000 after tax — back into development. "Our products and our work in training give us a good, steady cash flow," he said. "That gives us some elbow room. But we will certainly be looking for multi-client work and we are going to tap EEC funds fairly strongly."

Fairbairn said government funds could come from other sources for training and helping small businesses introduce computers: "I am particularly keen to look at the micros market. But I believe we will not be able to do enough without more government help. I believe the Department of Education and Science could increase teacher training in this area — we could help here. And the Department of Industry has schemes for helping small businesses."

The NCC has been accused of competing with its own members by selling its products. Would this "competition" increase with the funding cuts? "There's a need for software like Filetab which can run on a wide range of machines," said Fairbairn. "There is a need for the NCC to take on this industry-wide software role.

...SF may sell ...tachi M170

...the German chemicals ...and IBM-compatible ...perals manufacturer, is ...stood to be talking to ...of Japan about selling ...latter's M170 IBM-...patible processor, which is ...3031 class. Hitachi's M160 ...M200 are already sold in ...pe by Nasco and Olivetti.

Troubled issue

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French take minority stake in Olivetti

THE French industrial group, St Gobain-Pont-à-Mousson, is acquiring a large minority shareholding in Olivetti as part of its strategy to diversify into the computer business.

Early this year, St Gobain took a 20% holding in Compagnie des Machines Bull, the holding company for the 53% French stake in mainframe supplier CII-HB (CW, January 24).

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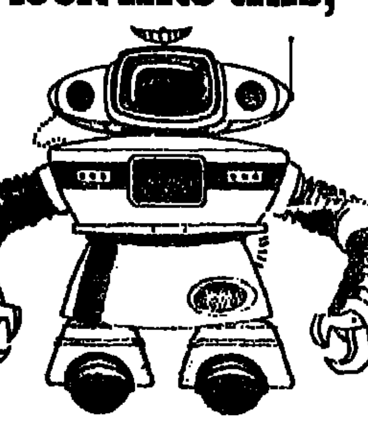

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HP introduces the Matrix Machine.

If you've been thinking that only a 32-bit computer can handle your matrix intensive jobs, think about this: with HP's new Vector Instruction Set (VIS), the HP 1000 does matrix inversions at speeds comparable to a 32 bit mini. At less than one third the price.
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For complete information about the VIS-enhanced HP 1000 ring your nearest Hewlett-Packard office or contact Hewlett-Packard Ltd., King Street Lane, Winnersh, Wokingham, Berks., RG11 5AR. Telephone: Wokingham (0734) 784774.

Matrix Inversion Times**

Size	HP 1000 VIS-enhanced F-series	32-bit Mini-computer
50x50	1.8 sec	1.5 sec
100x100	12.3 sec	11.7 sec
200x200	105 sec	92 sec
400x400	690 sec	720 sec

**Benchmark method – Matrix inversion using Gauss-Jordan Elimination.

*Prices correct at time of going to Press.

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UK electronic mail trials this year

ELECTRONIC mail trials in the UK are to start this year and the Post Office expects a national service to be set up at the end of next year or early in 1982. More shape was given to the Post Office's plans for electronic mail (CW, December 13, 1979) at Communications 80 in Birmingham last week, where three VDUs were used to demonstrate the user interface, which the Post Office regards as the most important part of the system.

The trial will be based on the Racal-ESL 1044 communications controller running file management software from Telepost Systems. About 150 ATS Vitel VDU terminals will be installed by a few large companies which are co-operating in the trial, with printers, floppy disc units and cassette recorders as options.

The CCITT teletex standard will be added to the interfaces when it is published. It is expected to be finalised at the CCITT plenary session in November. Teletex terminals will be purchased for the service from Siemens and ITT, which have already been contracted to produce bulk supplies for the planned Swedish and German services. Meanwhile the system is designed to use the telephone network, especially at night, and the telex network. Four terminals sharing a line is expected to be typical and a terminal is expected to cost around the same as a telex machine, at £500.

Briefing

DPS 8 range filled out

HONEYWELL has now formally launched the three less powerful members of the DPS 8 mainframe in this country. Called the DPS 8/52, 8/44 and 8/20, they were introduced in the US last year along with the top-end 8/70 machine (CW, October 18, 1979). The 8/52 and 44 match the IBM 3031 and 4341 in performance, respectively, while the 8/20 offers twice the power of an IBM 4331. The DPS 8 family replaces the Level 66 line.

System X date

OPERATION of the first System X exchange is now scheduled for July, six months ahead of the date announced in 1978 and two years ahead of the date planned five years ago. The exchange will be sited at Baynard House in the City of London and will link 40 local exchanges to each other and to the trunk network. The first local exchange is planned for Woodbridge, Suffolk, at the end of the year, bringing short-code dialling and call diversion as the first of the range of new customer services, as well as guidance in using them supplied by synthesised voice messages.

ME29 facility

DESPITE discouraging answers from ICL whenever the company is questioned on the matter, industry sources insist that ICL is working on some kind of System Ten emulation facility on the ME29 successor to the 2903 series.

Micro-based WP system

A STAND-ALONE word processor based on the 16-bit Intel 8086 microprocessor has been developed by Logica and is to be sold by the National Enterprise Board's office systems venture, Nexos, as the 2200.

The controlling software occupies 128K-bytes of the 256K available. All routines are resident in memory rather than accessed from minifloppy discs.

The 2200 was unveiled to dealers at the Hanover Fair last week. Selling to end users will start in September.

Barlow to quit Post Office in the autumn

POST Office chairman Sir William Barlow announced last week that he would resign in the autumn. Industry Secretary Sir Keith Joseph spoke in the House of Commons of his great regret at Sir William's decision and of his warm appreciation of Sir William's leadership in speeding up the introduction of Prestel and System X and in preparing the management structure for the split between Telecommunications and Posts. He had hoped Sir William would become the chairman of British Telecommunications.

Sir William has been chairman of the Post Office since November 1977, when he came from private industry which he said he prefers for its cut and thrust of competition. He is believed to have pushed hard for further borrowing powers to sustain current growth in telecommunications. Cash limit problems are shared by other state corporations and last month Sir William became chairman of the Nationalised Industries' Chairmen Group, hoping to persuade the government to relax cash limits generally.

He was in favour of the government's plans to liberalise the subscribers' equipment market but strongly against the possibility of private companies being able to offer third party services on lines they leased from the corporation because it would undermine investment by drastically reducing earnings.

A chairman has yet to be found for British Telecommunications. Chairman designate of Posts and Giro is Ron Dearing, who will come from the Department of Industry on May 1.

Lloyd's suffer setback in leasing lawsuit

LLOYD'S of London has suffered a serious setback in the lawsuit initiated last year by Federal Leasing of McLean, Virginia, under which Federal is seeking $630 million from Lloyd's underwriters (CW, June 28, 1979). The presiding judge at the Baltimore Federal District Court has ordered Lloyd's to come to an agreement with Federal by May 2 on an interim payment by Lloyd's to prevent the leasing firm from going bankrupt.

This action has been demanded by Federal for some time because of its highly precarious financial position which is largely the result of Lloyd's underwriters not paying Federal's claims under the "1" policies written by them on Federal's lease portfolio of IBM machines. The Lloyd's underwriters have alleged in their defence that the Federal claims were fraudulent.

Judge Harvey at the Baltimore court has rejected Lloyd's allegations and has said that Federal has a high probability of ultimate success in the case.

Norsk Data 'take-over'

RICHARD Norton (Nord) is no longer, and in its place is Norsk Data — but customers of the Norwegian minimaker will find that little has changed apart from the name.

Norsk Data always intended to take over its UK distributor, and only went for an agency agreement to start with because with new companies formed in France and Germany at about the same time it felt that a third would overstretch its resources.

Beneficiaries of the takeover are the directors of the former company, who all remain directors of Norsk Data.

Norsk Data reports that 16 of its powerful multi-purpose minicomputers are now installed in the UK, with about the same number on order.

Key feature of the Norsk Data product line is the Sintran III operating system, which was designed from the ground up as an all-purpose system. The company offers two principal products, the Nord-100 16-bit mini and the Nord-500 32-bit processor, which runs only as a back-end to the 16-bit machine.

Globally, Norsk Data has reported that turnover rose 30% to about £18 million with 50% of the business being done outside Norway. At 7% profit margins were the best in the company's history.

Documation loses $10m

IBM-COMPATIBLE printer manufacturer, Documation, has revealed that it lost more than $10 million in the fourth quarter, ended February 1, of its 1980 fiscal year. Documation earlier this year reported a $3 million pre-tax loss in its 1980 third quarter and also announced big changes in its senior management (CW, February 14). Now Documation founder, Ray Halbert, has been replaced as chairman by Boston lawyer, Richard Testa. In addition about 130 manufacturing and engineering employees have been laid off.

Documation made an overall loss in fiscal 1980 of $9.5 million compared with a profit of $6.4 million in fiscal 1979, but its turnover rocketed by 53% to more than $90 million in fiscal 1980. Documentation attributes its losses to expansion costs, including the cost of building its plant in Eire.

Burroughs CP9000 launched in UK

BURROUGHS' CP9000 series, the range of communications processors introduced in the US in January (CW, January 24, 1980) has now been launched in the UK.

Ten of the CP9400 and CP9500 models have already been sold and the system is available immediately. The series is designed to interface with a variety of other manufacturers' mainframes and will interface and control the transfer of data between points within any remote or distributed processing operation to form large scale communications networks.

A typical CP9500 system with 384K-bytes of main memory would cost about £22,000. A version of the system is to be used in Nato's Scars project (CW, April 3, 1980).

IBM borrows more . . .

HAVING tapped the US bond market and the Saudi Arabian central bank, IBM continues its borrowing spree in Europe, where interest rates are lower. The company has borrowed the equivalent of $277 million in West Germany and Switzerland over six years at rates between 6% and 10%.

Like the previous borrowings, which stood at over $1,800 million, the new money is to be spent on financing leases and plant expansion and as working capital.

. . . and gains too

FILLING out the IBM picture, IBM Japan has reported net profit for 1979 up 5.1% at £65.8 million, on turnover up 2.8% at £589 million. Exports accounted for £104 million of this, and were up 26.3% over 1978. New investment rose 46.4%. IBM has substantial manufacturing capacity in Japan, including large systems, and most of the exports go to other Far Eastern Markets.

Gala college opts for move to 4331

THE Scottish College of Textiles in Galashiels is to become the first educational establishment to install an IBM 4331 when it replaces its ICL 1900 with the new machine in the next two weeks.

The college said the move up to a more powerful system was long overdue since the ICL 1900 was obtained second-hand from Paisley College six years ago when it was already seven years old.

A budget of just over £100,000 was made available for the purchase of a new machine and this attracted 12 tenders, which were reduced to ICL, Digital Equipment, IBM and Prime.

ICL tendered a 2904/50, DEC tendered a PDP-11/70 but then offered a VAX 11-780, IBM offered the 4331 and Prime a P550.

"Prime and IBM were very impressive in terms of their software interactive capabilities but we felt the IBM 4331 came out better," said the college. "In a way all ICL was offering was an extended 1900 system and the company, unlike the others, would not let us do our own benchmark tests on the 2904."

Applications currently run include online computing facilities for local schools, a Higher National Diploma data processing course and the generation of textile patterns on VDUs which are then transferred to paper tape and fed into weaving looms. The college also maintains the World Textile Abstracts Database produced by the Shirley Institute in Manchester.

● Switching from its ageing Elliot 4130 system, the University College of Wales, Aberystwyth, is to install a refurbished and upgraded Honeywell 6080. Valued at about £400,000, the Honeywell system has 256K of cache memory and five 100-megabyte disc drives. It will be able to support up to 60 terminals and offer a far greater range of software.

Japanese go it alone

REPORTS from Japan indicate that government efforts to encourage computer manufacturers to collaborate have been less than successful.

The $400 million four-year programme to research very large scale integrated circuitry has come to an end, but it appears that each of five companies involved — NEC, Toshiba, Fujitsu, Hitachi and Mitsubishi — remained very much at arms' length from each other.

Each of the projects is reported to have been carried out by a team drawn largely from just one of the companies, bringing their own technology with them to the joint laboratory in Kawasaki, and now taking it back to their own companies.

MITI is still encouraging Nippon Electric and Toshiba on the one hand and Fujitsu, Hitachi and Mitsubishi on the other to come closer together, but while this has been fairly successful in the former case, Fujitsu and Hitachi, nominally partners in the M-series of IBM-compatible mainframes, are in reality fierce competitors.

Mitsubishi, which builds the Cosmo series of smaller mainframes based on Xerox licences, is planning to join the other two as a third supplier of IBM-compatible machines.

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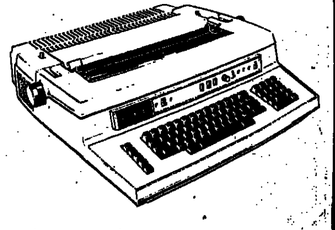

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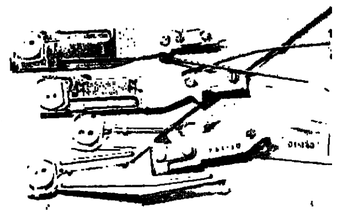

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TERMIPRINTER 7075 Keyboard Send/Receive terminal with typewriter quality printing, full upper and lower case character set, switch-selectable print speeds of 10, 15 and 30 cps 136-column pin feed platen (paper width 12.85in.). RS232 interface. £975.00.

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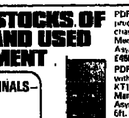

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PRODUCT NEWS

Matrix printer with five solenoids

A MATRIX printer using five 12 volt DC printing solenoids that are oscillated across the paper with a rail cam, has been introduced by Datac of Altrincham, Cheshire. It is called the DMI-40, and printing is done a row of dots at a time. A line of characters requires seven carriage passes for printing and two additional passes for the line space. Datac says the total cycle time per line of output is 0.5 seconds.

The position of the carriage and the firing of each solenoid is established from a slotted strip that is straddled by a photo transistor and LED. Datac claims the DMI-40 prints any size fount or graphics with the user's own electronic drive circuitry.

Optional electronic drive circuitry will print 96 characters Ascii code (parallel and serial, RS 232C inputs) in a 9 x 7 matrix fount at 10 characters per inch and 6 lines per inch as well as graphics.

It runs on 12 volts DC, costs £139 each, prints about 120 lines per minute.

Datac Ltd (CW), Tudor Road, Broadheath, Altrincham, WA14 5TN. Tel: 061-941 2361.

Disc system for CDC kit

A DISC sub-system that is capable of handling up to 16 drives on each controller on Control Data's 3300 and 3500 systems is available from Advanced Computer Techniques.

The sub-system is connected to the host computer via CDC communications channels and interfaces with the master operating system through an ACT supplied driver.

Advanced Computer Techniques Corp (CW), 1,501 Wilson Boulevard, Arlington, Virginia, 22209. Tel: (0101-703) 524 8330.

Keeping dirt at bay

SPECS of dirt have been known to cause machine failure. To help combat this problem, Data Efficiency has produced a range of dust covers.

The covers are made from opaque vinyl with an embossed taffeta finish. Data Efficiency says that all the seams are machine stitched and a cut-out in the back allows for the routeing of power and control cables.

They cost £9.95 each.

Data Efficiency Ltd (CW), Maxted Road, Maylands Avenue, Hemel Hempstead, HP2 7LE. Tel: 0442 57137.

16-bit single board analogue interface

FROM Di-an Data Systems are high resolution 14-bit and 16-bit single board analogue interface systems that are hardware and software compatible with the Digital Equipment PDP-11 minicomputer backplane.

These DEC standard hex-height boards feature a choice of eighter 14-bit or 16-bit analogue to digital conversion for applications requiring higher resolution than from standard 12-bit boards, says Di-an.

Regardless of resolution, all analogue input and input/output systems are available with full-expandable multiplexer inputs with eight differential channels for low level applications or 16 single ended channels for high level applications.

Both versions are available with an optional software programmable gain amplifier, which is offered in two levels of performance. The PGH option is designed for high level application and provides digitally selected gains of one, two, four and eight.

The PGL option is utilised in low level, wide range systems and provides software programmable gains of one, 10, 100 and 500.

The boards use a fixed configuration local bus called Translate-Bus. This allows direct interchange between any Datax 11 data acquisition modules that offer a wide spectrum of performance ranges.

Di-an Data Systems Ltd (CW), Mersey House, Battersea Road, Heaton Mersey, Stockport, SK4 3EA.

Acoustic cover for IBM 2740s and 2741s

USERS of the IBM 2740 or 2741 communications terminals can now buy an acoustic enclosure which surrounds the terminals and is said to reduce emitted noise by 60%.

Made by The Power Equipment Co, it is manufactured from metal, lined with noise-absorbing foam, and is available either in mist grey or oatmeal.

Power Equipment says the cover can be fitted in about five minutes and a platen and a platen extension kit is supplied to allow the platen to be operated from outside the enclosure.

Input and output slots are cut into the back section for the free passage of continuous stationery. The front section is made in clear heavy-duty acrylic. The lower section falls back for access to the keyboard and the front lifts off on friction hinges for paper changes.

The Power Equipment Co Ltd (CW), Kingsbury Road, London, NW9 8UU. Tel: 01-205 6038.

Pocket terminal for digital diagnostics

A POCKET terminal with an increased range of signalling speeds that can be used as a test and diagnostic tool for digital systems has been introduced by GR Electronics of Newport, Gwent.

Called Model RS, it will send and receive Ascii code at 300, 600, 1,200 and 2,400 baud with an alphanumeric display on eight 16-segment LEDs of the last 30 characters received.

Housed in a 150×80×35mm case, the terminal has 40 positive response keys, allowing 128 Ascii codes to be keyed in and transmitted as 8-bit words with selectable parities and start and stop bits, says GR Electronics.

It is available in 20 milliamp or RS 232C level versions with alternative 25-way "D" type 7-pin connectors. GR Electronics adds that it could be used as a low-cost alternative to traditional terminal equipment and to replace purpose-built keyboard equipment in system control applications.

GR Electronics Ltd (CW), Fairoak House, Church Road, Newport, NP5 7EJ. Tel: 0633 214147.

Guide to Intel Systems Implementation Supervisor

FROM Rapid Recall is a pocket guide to the Intel Systems Implementation Supervisor (Isis-11) and a bi-monthly newsletter called RR1. Isis-11 is a disc operating system for Intellec microcomputer development systems that provides a software interface to the disc drive and to any other standard peripheral device. The guide includes the Isis-11 control characters, command syntax, monitor commands and error messages.

The newsletter is designed to be of interest to anyone concerned with microprocessors or memories and also contains details of stocks, new products and technical design notes. It is free to engineers and buyers.

Rapid Recall Ltd (CW), 6 Soho Mills, Wooburn Industrial Park, Wooburn Green, Bucks. Tel: Bourne End (062 85) 24961.

Colour brochure

GEC Semiconductors has published a 14-page four-colour brochure about its Cellmos tailor-made large scale semiconductor integration service.

GEC Semiconductors Ltd (CW), East Lane, Wembley, HA9 7PP. Tel: 01-904 9393.

Catalogue

'PROCESS control equipment manufacturer Taylor Instruments of Stevenage, Herts., has published a catalogue that lists and illustrates its range of analogue, digital and analytical instruments and computer control systems.

Taylor Instruments Ltd (CW), Gunnels Wood Road, Stevenage, SG1 2EL. Tel: 0438 2366.

Diskette files

A RANGE of diskette filing systems has been launched by CBM Data Software. The systems contain rotary and desk stands, fan filing and suspension filing and are all manufactured using anti-static materials.

CBM Data Software Ltd (CW), Old Coach House, The Crescent, Belmont, Sutton, SM2 6BP. Tel: 01-642 0471.

Alphanumeric printers

TWO ranges of alphanumeric printers from Digitel are now available in the UK from Aviquipo of Maidenhead, Berks.

Designated the 8300 and 8400 series, these micro based printers provide 64 different characters in a 5 x 7 Ascii-controlled dot matrix. They can also print in bold letters.

The RS 232C and 20 milliamp current loop interfaces are switch selectable, says Aviquipo. The company adds that some models provide a selection of baud rates from 110 to 1,200 baud.

Aviquipo of Britain Ltd (CW), St Peter's Road, Maidenhead, SL6 7QU. Tel: 0628 34588.

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BOOKS

Wanted—a watchdog on poor DP practice

Effective Methods of EDP Quality Assurance, by William Perry. 347 pp. £16.00. Online Conference Ltd (CW), Argyle House, Joel Street, Northwood Hills HA6 1TS. Tel: 09274 28211.

THIS is a gigantic set of checklists on most aspects of programming and application design standards and a mechanism for producing audit reports of the effectiveness of these procedures, called QA.

DP management, consultants and O&M departments will find it useful, as well as people in medium to large DP shops with a desire to strengthen management control over procedures.

As a source of ideas in the area this is excellent. Anybody charged with developing such a function in an organisation might well use this as a source of additional ideas and as a checklist to make sure no essential points have been forgotten.

It might even be used by management to get the ball rolling, or by somebody else to start a discussion with management about a more formal continuous review of organisational practices.

Even the best of our organisations are guilty of letting daily short-term pressures push away ideals of good practice. We need some kind of watchdog function to give us early warning of poor practice or of failure to carry out, management intentions.

The overhead cost is indicated here as between 2.5% and 5% of project cost. I take this not as a net cost increase, but as an investment which, according to many analogous experiences, is likely to save project waste in the short and long term and result in a net saving.

I found the lack of references, to real users of this method, made it difficult to evaluate. Since experience is stated to be from 1968, this should be possible. What does it save? How much has quality been increased? What does the management using the methods really think of it?

The total lack of mention of the Fagan/IBM inspection method makes the present text almost obsolete, since that QA method has already (since at least 1974) demonstrated large-scale quantitative benefits at IBM and elsewhere.

TOM GILB

Sliced bread meets its match at last!

The Viewdata Revolution, by Sam Fedida and Rex Malik. 186 pp. £11.50. Associated Business Press (CW), 107 Fleet Street, London, EC4A 2AB. Tel 01-353 3651.

Viewdata: A Public Information Utility, by Dr Adrian Stokes. 133 pp. £9.95. Input Two-Nine Ltd (CW), 7 Banstead Road, Purley, CR2 3ER. Tel: 01-668 5281.

THE simultaneous publication of two independent books covering the same subject is a sign that the area in question has well and truly arrived on the map. The map in this case covers the extensive world of viewdata – or Prestel as the British Post Office would have it called.

For many of us, viewdata has seemingly been around for some considerable time, largely due to the frequent reassurances that a viewdata breakthrough is close.

This breakthrough would appear to be as remote as ever. Few members of the great general public even now would admit to having heard about it, and those who have scarcely seem wildly excited by the prospect.

Public trials have come and gone, more or less in line with industry enthusiasm. Existing up and running public information services — variously known as Ceefax, Oracle, Telex and videotext — have hardly stirred the airwaves.

Perhaps this lack of interest will be dispelled by the arrival of two well-informed books on the subject. Pride of place should perhaps be afforded to The Viewdata Revolution, Sam Fedida being the acknowledged inventor of viewdata while co-author Rex Malik is a journalist who specialises in computer technology. There is in fact not much revolution in the contents more a narrative covering viewdata technology, past, present and future. Prestel incidentally, hardly gets a look in.

For those wishing to understand the background to viewdata and the future it holds, the book makes entertaining reading.

The progress and pace of viewdata is amply demonstrated by the publication of the second edition of Viewdata A Public Information Utility, by Adrian Stokes, a consultant with Langton Information Systems.

Dr Stokes, whose other activities include teaching computing at Hatfield Poly and representing the disabled, adopts a basically informatics approach.

As such, the book is likely to be of considerable benefit and interest to potential users. It will also be of particular interest to the computer community, notably a section devoted to the effects of viewdata on the DP department.

Anyone entering the viewdata business world will quickly find themselves involved in CUGS (closed users group), and Umbrella IP (an information provider who subcontracts his part of the viewdatabase to other organisations). Fortunately the Stokes book provides a full complement of translation glossaries, acronyms and diagrams.

Dr Stokes suggests it is not an exaggeration to say that viewdata will have a greater impact on our lives than any other invention of the 20th Century so far.

Sliced bread, Chinese takeaway foods and the micro chip, it seems, have met their match.

FOCUS

Who will win privacy race?

International Data Flow, by Jan Freese. 71 pp. £3.35. Studentlitteratur/Input Two-Nine Ltd (CW), 7 Banstead Road, Purley, CR2 3ER. Tel: 01-668 5281.

IT is generally believed in informed circles that, if UK privacy legislation doesn't get us, then an EEC variety probably will.

If that is the case, and the odds are apparently shortening in favour of the EEC being first past the privacy post, then the publication of this book is timely.

Where telecommunications are concerned there are no boundary limits. It is as feasible to transmit data across continents as it is across countries. As the book makes clear, no Customs officer, however zealous, can stop information which, possibly by means of satellites, zooms at incredible speed around the world.

The book suggests that currently opposing forces are mustering. While computer technology is encouraging the growth of transnational data flows, individual countries are doing their best to create legal obstacles. Where apparently high technology meets low political realities, neither side emerges as a clear winner.

Not only is the book clear and concise; it is also highly readable. The author, Jan Freese, has had much to do with the implementation of the stringent data privacy legislation in Sweden and is currently director-general of the Swedish Data Inspection Board.

Few UK DP professionals will need reminding that while Swedish films may reflect a liberal attitude, such is not the case with the storing and handling of computer data.

ALAN SIMPSON

Comprehensive treatment

Structured Design: Fundamentals of a Discipline of Computer Program and System Design, by Edward Yourdon and Larry Constantine. 473 pp. £13.70. Prentice-Hall International (CW), 66 Wood Lane End, Hemel Hempstead, Herts. Tel. 0442 58531.

FOLLOWING the huge success of the ideas of structured programming introduced in the 1970s, it has become accepted that large programs should be designed and implemented in a systematic "structured" fashion by dividing them into "modules" which, ideally, are largely developed separately.

There are now a number of systematic methods or methodologies for producing designs of this kind. The names of Constantine, Jackson, Parnas and Warnier are among those that come to mind.

This book is an exhaustive presentation of Constantine's structured design method, and although it has been presented in books before this is surely by far the most comprehensive available treatment.

There is a considerable amount of material here and quite obviously the book is the fruit of years of experience with the modularisation of many different software systems.

"Good" and "bad" features of different ways of modularising programs are discussed in detail, the heart of the book being a comprehensive discussion of design techniques ultimately derived from an analysis of the data flow graph associated with the problem. An illuminating, if somewhat brief, chapter relates this approach to those of Jackson, Parnas and Warnier.

Unfortunately the book is rather hard to read. The style is sometimes laboured and suffers from the relative scarcity of specific examples of the issues under discussion.

A great deal of work has been lavished on the book and it contains a number of perceptive comments on the relative merits of different kinds of program modularisations and how these can be refined and improved.

Dr PETER WALLIS

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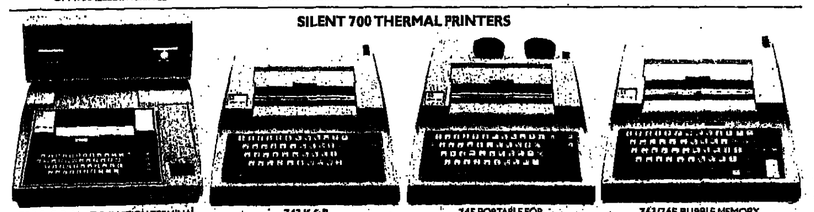

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- ★ People with the drive and enthusiasm to succeed in a project oriented development environment.

Our client can offer:

- ★ Training in real-time and database techniques.
- ★ Experience of a variety of application projects.
- ★ Development of systems in a technically advanced environment.
- ★ Excellent starting salary and conditions of employment.
- ★ Full relocation expenses where appropriate.

These are very attractive opportunities to join a professional data processing development team embarking upon a number of interesting projects.

Ref: E1/2404/CW

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0734

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You'll use the latest DEC and INTEL equipment and the most sophisticated software such as the new real time language Ada which is planned to replace CORAL and PASCAL as the main defence language within the next few years.

You'll be working at the sharp end of one of the most complex military systems ever conceived and it goes without saying that the experience you will gain will be unrivalled in this field.

For a confidential discussion on the unique nature of this challenge and how it can fit in with your career plans, contact MARK IRENS now quoting reference CW/1704/1.

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CONSULTANTS MESSAGE SWITCHING

LONDON £10,000 +

If you have a technical background in at least two of the following areas and want to build on this experience to enter top-level consultancy then this opportunity could be of interest:

- ★ Message switching applications.
- ★ PDP 11 computers, preferably with RSX11M.
- ★ Turnkey Systems.
- ★ Data Communications.
- ★ Sales Support.

We are looking for more than just technical competence — we expect you to have the personality and presence necessary for negotiating with clients at a senior level and the skills necessary to write detailed proposals to meet the clients' requirements and to communicate these requirements to project teams.

You'll join a leading U.K. systems house which has developed a sophisticated message switching system which can be tailored to meet a client's individual requirements. Applications range from the automation of telegraph centres and interfacing with the international telex network to providing access to a mainframe computer from any terminal in a private communications network.

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WORD PROCESSING FACSIMILE

Our clients have over the last three years successfully launched a number of new products in telecommunications, facsimile and word processing fields.

They have particularly retained us to find:

TERRITORY MANAGERS

EARNINGS C. £15,000 + CAR

For these posts they are looking for dynamic and successful office systems sales executives who are urgently seeking to move into management. An excellent basic salary with high guarantees will be paid which together with realistic targets, should give you little difficulty in earning in excess of the remuneration shown above. Already a substantial market has been identified and a number of major leads established. You are expected to be ambitious and self-motivating and once you have established the business, it will be necessary for you to set up and subsequently manage your own sales force.

The Company has heavily committed itself to the word processing business — its already highly established telecommunications support function will be invaluable in the marketing of this communicating W.P. range of equipment.

Interested applicants should contact ROY HIGHFIELD, quoting reference CW/1704/3 so that interviews can be arranged.

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INSURANCE INDUSTRY
DISTRIBUTED DATA PROCESSING
MANCHESTER
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COMPANY CAR, ETC.
HIGH BASIC AND GUARANTEE

Our Clients are one of the world's leading manufacturer's of computers and peripheral equipment, specialising in distributed data processing techniques.

We are retained to find a suitable person to market our Client's solutions to the data processing problems of the Insurance Industry.

Applications are invited from marketing orientated executives within either the Computer or the Insurance Industries. The vital pre-requisite is an intimate knowledge of the administrative and data processing requirements of the Insurance Industry.

The successful candidate will benefit from both excellent financial remuneration and career progression.

Telephone BOB BOWER for further information quoting reference CW/1704/4.

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STAFFS., WEST COUNTRY, WOLVERHAMPTON, BUCKS., HAMPSHIRE

Salary	Position	Location	Ref	Details
£7,000 + Car	PROJECT LEADERS	WOLVERHAMPTON	W230	Several years Mini experience — commercial applications
£6,000	PROGRAMMER	WOLVERHAMPTON	W231	To work on packaged commercial systems — mini language
£9,000 + Car	SENIOR PROGRAMMER	BUCKS	W232	Must have Univac 90/30 Cobol and preferably Assembler. Removal Expenses
£6,000	PROGRAMMER	BUCKS	W233	Preferably Univac Cobol for On-Line installation.
C. £7,000	ANALYSTS	WESTON-S-M	W235	2/3 years in manufacturing/commercial systems. Removal package.
C. £6,000	PROGRAMMERS	WESTON-S-M	W236	Experienced Cobol Programmers, IBM, CICS/Assembler advantage. Removal package.
C. £7,000	SENIOR PROGRAMMERS	WESTON-S-M	W237	Proven Team Leaders. IBM Cobol and or/Assembler/CICS. Removal package.
£6-£7,000	PROGRAMMERS	HAMPSHIRE	W238	Six months upwards PL1 for TP based systems. Removal package.
£ Negotiable	PROGRAMMERS	STOKE-ON-TRENT	W239	Two years + experience Cobol and/or Basic +.
C. £6,500	ANALYST/PROGRAMMER	WOLVERHAMPTON	W240	Realtime system, 2900 series Cobol ground floor opportunity.
To £7,000	SOFTWARE PROGRAMMER	SHROPSHIRE	W241	Good knowledge of G2+ Communications some Cobol/Filetab/Plan.

BIRMINGHAM AND WEST MIDLANDS

Salary	Position	Location	Ref	Details
To £6,000	PROGRAMMERS	BIRMINGHAM	5/555	2 years Cobol, preferably ICL. Commercial applications. Professional Bureau environment.
£ Negotiable	PROGRAMMERS	BIRMINGHAM	5/556	2 years Cobol experience, preferably ICL hardware. Commercial/Accounting applications. Database experience would be advantageous.
£ Negotiable	ANALYSTS	BIRMINGHAM	5/557	Cobol programming experience with some Analysis. Commercial applications. Latest ICL Hardware.
£6,000+	SYSTEMS PROGRAMMER	BIRMINGHAM	5/558	4 years experience in Assembler, preferably some PL1, IBM, DOS/VS, Power/VS, CICS, DBOMP.
£7,000+	SYSTEMS ANALYST	WEST MIDLANDS	5/559	Programming background, some systems experience. ICL hardware, manufacturing applications.
To £6,500 + Car	PROGRAMMERS	BIRMINGHAM	5/560	Strong programming background in Basic, Software house. Ability to work unsupervised essential.
To £5,000	SENIOR OPERATOR	WEST MIDLANDS	5/561	Minimum 'O' level education. IBM hardware, OS/VS1, HASP. 2 years experience, 3 shifts.
£5,500+	PROGRAMMERS	BIRMINGHAM	5/562	Good educational background required. Cobol experience on commercial applications. Bureau environment.
To £8,000	SENIOR ANALYST	WALSALL	5/563	Experience in Business systems analysis required. Preferably some Mini experience. Bureau/Software house environment.
To £6,500	PROGRAMMERS	CITY CENTRE	5/564	A Software house/Bureau want Programmers with a minimum of 12 months Cobol experience, to work on their Mini computers. Commercial and manufacturing packages.
C. £7,500	ANALYST PROGRAMMER	WEST MIDLANDS	5/565	A good educational background is required. CICS DL1 and Cobol experience would be preferred. Bids towards Systems Analysis. Commercial applications.
£6,000-£6,500	SYSTEMS ANALYST	BIRMINGHAM	5/566	Programming background advantageous. Commercial applications for a Multi National Organisation
£ Negotiable	SOFTWARE SPECIALIST	BIRMINGHAM	5/567	Good career prospects for a VME/B specialist, to be involved at Project Leader level Good educational background required.
To £7,000	PROGRAMMERS	BIRMINGHAM	5/568	2 years BASIC programming experience for a Software house installing Minis in client companies. Manufacturing applications.
£6,000	SYSTEMS ANALYST	WALSALL	5/569	Strong financial background required. ICL hardware. Programming background would be useful.

EAST MIDLANDS

Salary	Position	Location	Ref	Details
£ Negotiable	SENIOR PROGRAMMER	COVENTRY	EM741	2 years experience of writing programmes, Programme specs. System testing. IBM Cobol or PL1.
£ Negotiable	ANALYST/PROGRAMMER	COVENTRY	EM750	3 years experience on IBM equipment.
C. £6,500	PROGRAMMER/ANALYST	WARWICKSHIRE	EM749	Must have 2 years experience. RPG 11 Language.
C. £7,000	ANALYST/PROGRAMMER	WARWICKSHIRE	EM748	2 years experience. Commercial environment.
C. £5,500	SYSTEMS ANALYST	LEICESTERSHIRE	EM739	2 years analysis experience. Knowledge of job control.
To £6,500	ANALYST/PROGRAMMER	NOTTINGHAMSHIRE	EM740	Development of future projects using On-Line equipment.
£ Negotiable	SYSTEMS ANALYST	NOTTINGHAM	EM735	2 years analysis experience. Commercial environment.
£ Negotiable	SENIOR PROGRAMMER	NOTTINGHAMSHIRE	EM736	5 years programming experience. Commercial applications.
£ Negotiable	PROGRAMMER	NOTTINGHAMSHIRE	EM737	3 years experience PL1, Cobol, Assembler, languages.
£6,000-£6,500	PROGRAMMER	DERBYSHIRE	EM742	2/3 years experience using IBM Assembler language. Mainframe programming.
£ Negotiable	SYSTEMS PROGRAMMER	SHEFFIELD	EM743	2 years' systems programming experience. Bureau environment.
To £7,500	SHIFT LEADER	SHEFFIELD	EM745	5 years experience OS/VS1, supervisory experience. Bureau environment.
To £8,000	SYSTEMS ANALYST	PETERBOROUGH	EM746	2 years analysis experience IBM, Commercial environment.
To £7,000	PROGRAMMER	PETERBOROUGH	EM747	2 years programming experience. PL1, DL1, CICS. Commercial environment.
C. £5,250	PROGRAMMER	NORTHAMPTONSHIRE	EM744	12/18 months Cobol, DBMS, Commercial environment.

INTERVIEWS ANY TIME — WALK IN BETWEEN 9 a.m.-5.30 p.m.

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Hewlett Packard-Project Controllers

Central London. To £9.5K + Benefits

Programming Team Leaders who can demonstrate leadership skills with a small team dedicated to on-line development are required by a financially orientated institution occupying a unique position in the Insurance Services sector. Familiarity with Hewlett Packard hardware and systems software is essential. Successful candidates will have extensive knowledge of the company's IMAGE data base and the interactive inquiry language QUERY. Also, a programming background in COBOL is required whilst additional knowledge of SPL and/or RPG will be reflected in the salary offered. Successful applicants will exhibit personal communications skills and have an enquiring, analytical mind. Ref: 24/4/A

On-Line Analyst Programmers

Brussels. Salary: to £16K

Our client, a highly reputable Systems Development and Product Support Group has its Continental Headquarters in Brussels. As a result of increased demand for both its software products and support/consultancy services, the Company is seeking Real-Time Analyst/Programmers with current experience of large IBM 370 or 303X systems. Applicants must offer a minimum of 3 years COBOL or PL-1 programming experience and exposure to one or more of the following: IMS, CICS, TOTAL, ENVIRON, SHADOW, IDMS and ADABAS. For certain positions a good knowledge of French is advantageous. There will be ample opportunity for travel within mainland Europe. Ref: 24/4/B

Software Support

Midlands & Bristol. £7K + car

One of Britain's leading retailers of Micro Based Business Systems has retained Logistix to recruit three Software Support Specialists. Our client's head office is situated in a rural area West of London and as a result of a planned expansion programme they have a requirement for three Regional Software Support Specialists for bases in the Nottingham, Birmingham and Bristol areas. Suitable applicants will be both self-motivated and ambitious whilst the ability to liaise with clients and technical experts at all levels is very important. Candidates should offer at least one year's COBOL or BASIC programming experience on any mini or preferably microcomputer. More important will be past or current involvement in a diverse range of areas such as financial applications programming, micro-electronics, and/or sales support. The Company provides in-house and external training courses in both software and maintenance techniques. Undoubtedly this position will appeal to those who realise the large market potential for Micro Based Business Systems and have a genuine desire to move into this sector. Candidates should enjoy problem solving and customer liaison and be keen to join a dynamic, state-of-the-art company offering an excellent and rare career opportunity. Our client will pay an above-average salary as well as providing a comprehensive range of benefits including a car. Interviews will be held within one week of the appearance of this advertisement. Ref: 24/4/C

Financial Analysts and Designers

Benelux. Salary: to £20K

A States-side based Corporation with several regional offices in Western Europe requires additional Systems Designers and Financial Analysts to join its permanent staff in either its London or Brussels offices. Successful candidates should be aged 28-35 and offer Banking (Retail or Merchant), Stock-Broking, Accountancy or Management Consultancy experience with a large-scale IBM, NCR or Burroughs user. All positions will entail a degree of travel within Continental Europe, UK and USA. It is an added advantage to speak reasonable French, German or Dutch. Interviews can be arranged in UK, Holland or Belgium. Ref: 24/4/D

Office and Business Systems

West of London. To £10K + Bonus

A well established Mini-Computer Manufacturer is seeking Applications and Systems Programmers for its Small Business Systems Division. Systems Programmers should offer a minimum of one year's experience of either BASIC and/or Assembler language. Applications Programmers should have recent Business Applications experience on any mini/micro based system in one of the following: Stock/Inventory control, Accounting packages and Payroll/Personnel Records. These positions will be of particular interest to young and ambitious professionals who whilst keeping abreast of technical development also have a tangible opportunity to substantially increase their income and career progression. The Company, in addition to an excellent salary pays an annual bonus based on individual performance and overall Company profitability. Ref: 24/4/E

Systems Analysts-Graphics

Northern Home Counties. Salary: to £10K

One of the market leaders in the manufacture and sale of graphics terminals and instrumentation devices has a requirement for Systems Analysts and Operating Systems Consultants for its Southern UK operations. Candidates should offer a minimum of two years practical experience in an area allied to the one in which our clients operate. Programming expertise should have been gained in BASIC, FORTRAN or ASSEMBLER where on-line techniques were well-established. A premium will be paid to those in the speciality areas of geometric modelling, interactive graphics and signal processing. These positions represent an outstanding opportunity for career and self-motivated individuals.

Logistix, 10 Grenville Place London SW7 4RW

01-373 3063 LOGISTIX **Telex: 28800**

SELF STARTER

Big opportunity to work on Mini-Computer Business Systems with small expanding Company.
FLEXIBLE HOURS. Thames Valley Area
Ring or write to
ROD COOKE
TETRA BUSINESS SYSTEMS LTD
20 FAWCETT STREET
LONDON SW10
01-352 1127

BOX Nos.

Box number replies should be addressed to:

Box No

c/o Computer Weekly
Dorset House, Stamford Street, London SE1 9LU

The first two Analyst Programmers in Surrey...(?)

.... to be responsible for building a new Data Processing department.

They must be enthusiastic, positive and ambitious, because their success will be critical to the growth and efficiency of our UK operation.

Reporting to the Systems Manager you will work closely with user management in developing a broad range of business systems. Particularly, investigation is needed in the Sales, Marketing and Production spheres. Behind you will be a powerful mainframe utilising Database and On-Line facilities, whilst we envisage acquiring mini computers for data collection/transmission. Your background should include formal analysis and Cobol programming.

Of course this represents enormous scope for career development and an opportunity to truly "make your mark" in a closely-knit organisation. The responsibilities are high – but then the rewards are attractive:–

Commencing package between £8,000 and £9,750

Who are we? Quite simply the pioneers and authority in skin care products and beauty treatments. A name on the lips of beautiful women the world over. Our whole future looks challenging and exciting, with a stunning, innovative product range supported by dynamic advertising.

.... and now our own UK Data Processing team – starting with you!

Contact our Advising Consultant Dave Scarlett on 01-935 0671 or evenings and weekends (before 9.00pm) on 01-540 3549.

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Birmingham 021-236 3781 35-37 Great Charles Street, Queensway, Birmingham B3 3JY
Manchester 061-833 0427 Blackfriars House, The Parsonage, Manchester M3 2JA
Brussels 010 322-640 7151/71 Avenue Louise 327, Boite 4, 1050 Bruxelles

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- ★ 370 OS APL Programmers
- ★ 2960 VME/B COBOL Programmers & Analyst Programmers
- ★ 1900 GII PLAN Programmers
- ★ Univac 90 IMS COBOL Programmers
- ★ Univac 1100 COBOL Analyst Programmers
- ★ PDP11 RSX11M FORTRAN Programmers
- ★ B1800 COBOL Programmers
- ★ CORAL 66 Programmers
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If you'd like to join us on contract, earning up to £15,000 per year, we'd be pleased to hear from you. Contact us now for more information on our current assignments and our PEOPLE PACKAGE benefits.

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Contract assignments in the Southern Home Counties and the South West of England

- ★ IMS Database Designers
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- ★ Analysts with DL1 Database experience
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- ★ PDP11 RTL2 Analyst Programmers
- ★ H66 IDS TDS COBOL Programmers

Ring John Kelly, Barbara Wolsky or Angela Arnone on 01-836 8411 -or mail the coupon

Please provide information about contract assignments.
London ☐ South ☐
Name _____ Tel.Nos.
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Mail (no stamp) to FREEPOST, VLI House, London WC2N 4BR.

OUTSTANDING OPERATIONS OPPORTUNITIES

GLASGOW

A major organisation in Glasgow, conveniently situated for all routes North/South and East/West including motorways and Clyde Tunnel, is setting up a new IBM installation and has a number of vacancies within the operations area.

PRODUCTION MANAGER

A senior operations professional is required to assume responsibility for all day to day aspects of running the installation. Reporting to the Operations Manager responsibilities include: –

- ★ data preparation
- ★ data control
- ★ computer room
- ★ communications network

Candidates must have about 5 years operations experience in a medium to large IBM installation under OS/VS1. Previous experience in a communications environment is also important. *(Ref. CW/8036)*

£4500

SHIFT LEADERS £5500–£7000

(plus shift allowance)

These positions will appeal to ambitious operators with between 2 and 3 years experience. IBM environment (OS/VS1) essential together with a good knowledge of JCL and Utilities.
(Ref. CW/8037)

OPERATORS £4500–£5500

(plus shift allowance)

Candidates should have between 1 and 2 years experience in an IBM installation, preferably operating under OS/VS1.
(Ref. CW/8038)

NETWORK CONTROLLER £5300–£6500

This position will entail responsibility for establishing and maintaining an important communications network. Candidates should ideally be ex-Shift Leaders or Senior Operators from a network environment.
(Ref. CW/8039)

JCL SPECIALIST £5500–£7000

This is a key role in this developing site and candidates must have extensive experience of OS/VS1. JCL and Utilities.
(Ref. CW/8040)

All these positions offer excellent career prospects in both the short and long term. Specific remuneration packages will be negotiated in line with the indicators shown and in some cases assistance will be provided with relocation expenses.

Interested candidates should contact Ivor Norton in the strictest confidence, through their most convenient office, quoting the appropriate reference. All applications will be acknowledged.

Ivor Norton Management Services Ltd

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North West:

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IBM OS Systems Programmers
IBM 370 PL1 ADABAS Programmers with Michael Jackson structured programming experience
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IBM 370 PL1 ASSEMBLER Programmers
IBM 370 COBOL Analyst Programmers
ICL 2900 COBOL VMEB Porgrammers
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Honeywell Level 66 IDS/TDS Programmers
Honeywell Level 66 good COBOL Programmers
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The above contracts are immediate and on-going, so if you are considering taking a contract assignment in the near future, please phone now for further information.

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Leeds Bradford Sheffield
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As well as paying high rates on a weekly basis, we can offer payment during sickness, advice on finance and taxation, and assistance with mortgages.

Scotland:

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We have several requirements in central and north-east Scotland for long-term contracts. Programmers and analysts with three or more years' experience are invited to contact us either personally at our new Glasgow office at 26 Blythswood Square, or telephone 041-221 1600.

Please provide information about contract assignments.

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JBA

Mini-Computer Development Software & Applications

Berkshire—Thames Valley £5,000—£11,000

Our client is a very well established American computer manufacturer, providing modern systems to a variety of business, engineering and scientific organisations internationally. Near Windsor, the Company has its U.K. and European headquarters where development of systems software and applications packages for world-wide use is undertaken.

The successful release recently of new hardware and software and the increasing demand for the Company's products necessitate further expansion of the dedicated development teams in several technical areas. The Company's success and its salary policy ensure that the work is always challenging and salaries are always among the best offered. If you have what it takes, salary is unlikely to be an obstacle.

Software Designers

The development teams are involved in the design of transaction processing and data management systems, compilers, and related packages, for an increasing range of business orientated machines. Development of word processing and business automation products is about to commence.

Applicants must have at least two years experience (although Graduates will be seriously considered) of similar work using advanced techniques. Most systems are written in Assembler and candidates must have considerable skill in this language.

Applications System Designers (COBOL)

The technical support group in this company has responsibility for functional quality assurance of system software products and ensuring trouble-free integration onto the systems. This work also encompasses in-house system development for on-line testing purposes.

Applicants must have sound COBOL experience, ideally with some mini-Assembler as well. Also needed is a business & commercial appreciation to enable complete understanding of market requirements.

N.B. Salaries quoted reflect range of staff sought from graduate to experienced specialist.

Contact: Mike Creamer

JAMES BAKER ASSOCIATES, International Personnel Consultants, 32 Savile Row, London W1. Tel: 01-439 9311.

We've built our future...

Following a very successful year, truly establishing their future growth, our client, an International Manufacturer, is seeking to expand their dynamic sales team.

This expansion has been the result of continuous successful research and development. Together with the finest support and range of equipment and applications, built up over three decades.

...come and build yours.

Midlands, London, East Pennines or Manchester

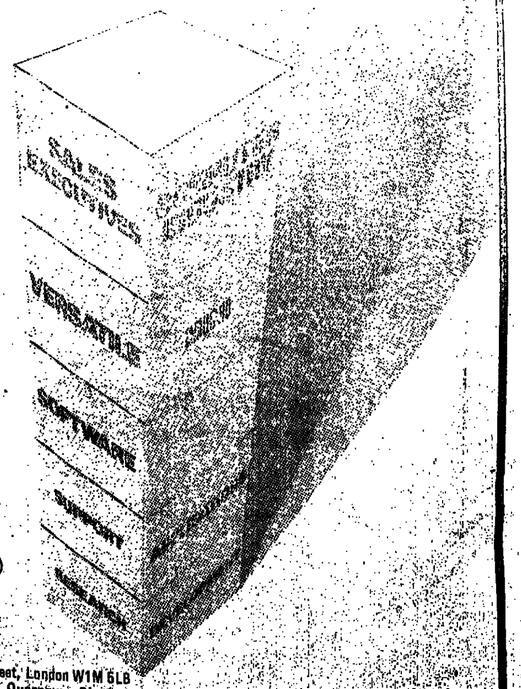
If you are looking to establish and build your career within a successful and fast growing environment, then our client would want to meet you.

Ideally, you should be aged 25/40, currently selling computer systems, and able to demonstrate a successful, stable, track record.

In return, by way of remuneration, our client offers a substantial basic salary, plus attractive commission and first year guarantee, plus company car and an attractive range of fringe benefits expected of an International Company.

For further information and immediate confidential interview, telephone CHRIS FRY ON 021-236 3781 (24 hour answering service) OR 021-742 1992 (Evenings and Weekends)

For Northern Appointments contact Paul Pearce on 021-308 4908 (Evenings and Weekends).



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Brussels 010 322-640 7161/71 Avenue Louise 327, Boite 4, 1050 Bruxelles

Specialist Computer Recruitment Ltd

Systems Development Manager

c.£12,500 (Reviewed in July)

The London Borough of Southwark employs 8,500 people who work for the ¼ million people who live there.

It's a massive responsibility which the Borough has met head-on by installing an ICL 2970 and building up a new Division of 65 people. The Borough is one of the very few organisations with the variety of work to use the 2970 to its full capability. Thus it is used for everyday tasks such as Payroll, Payments to Creditors and Rents and Rates as well as more complex tasks such as Financial Reporting and Project Monitoring.

What's more, an ambitious system plan for the next 3 years, involving Database techniques, is about to be drawn up.

The biggest job of its kind in Britain.

The Borough has asked us to use our knowledge of the computer industry to find the right person to deputise for the Head of Computer Services as well as carry out a highly-demanding role of their own.

This includes the organising and control of project teams; the review of methods, standards and performance; and monitoring the effectiveness of systems in relation to the Division's developing functions.

The reason the job is so sought-after is that the opportunity to run a department of this size and complexity is very rare. Therefore, in the HOC's absence you will be gaining experience that even the Head of many another Department will never gain.

Come in, No. 2 . . . your time's just starting!

You should be a proven man manager with enough technical expertise to command the respect of the professionals under your control and so it is unlikely that anyone under 30 years of age will have the necessary experience.

You must be a tireless self-starter who is unafraid of decision making on the spot and of taking full responsibility at a moment's notice. Experience of a large installation will be useful.

Rewards that only No. 1's expect.

In addition to the excellent salary with its imminent review, approximately 6 weeks holiday, help will also be given with your relocation expenses should you decide to take advantage of the South London location to make your new home in the nearby Kent/Surrey countryside.

In the longer term, there are good prospects within the Borough.

Incidentally, there is one other very good thing about the job. You will be working under a superb HOCS who was the outstanding candidate for the top job.

We ought to know. We found him as well.

If you would like to know more about the biggest job of its kind in Britain, please write or ring.

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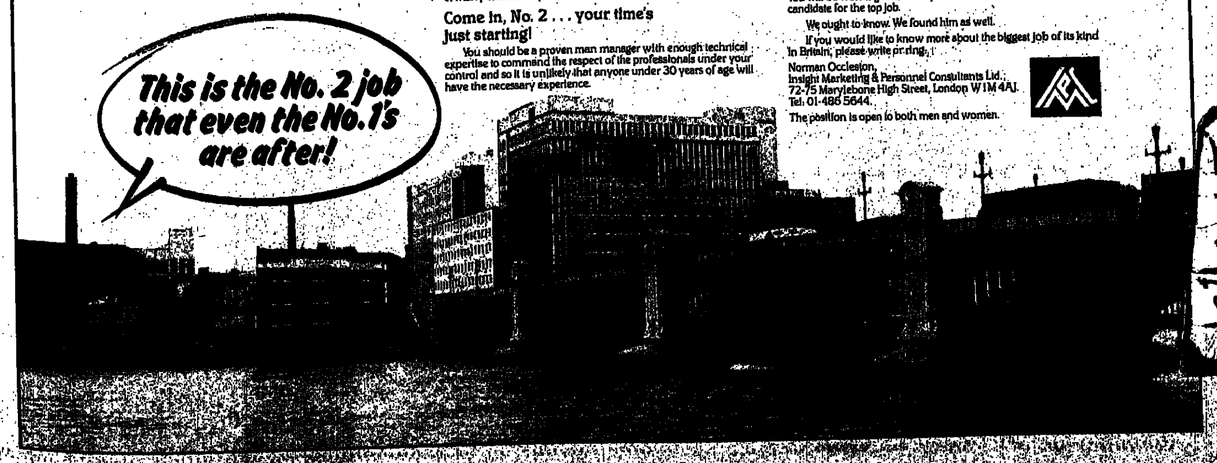

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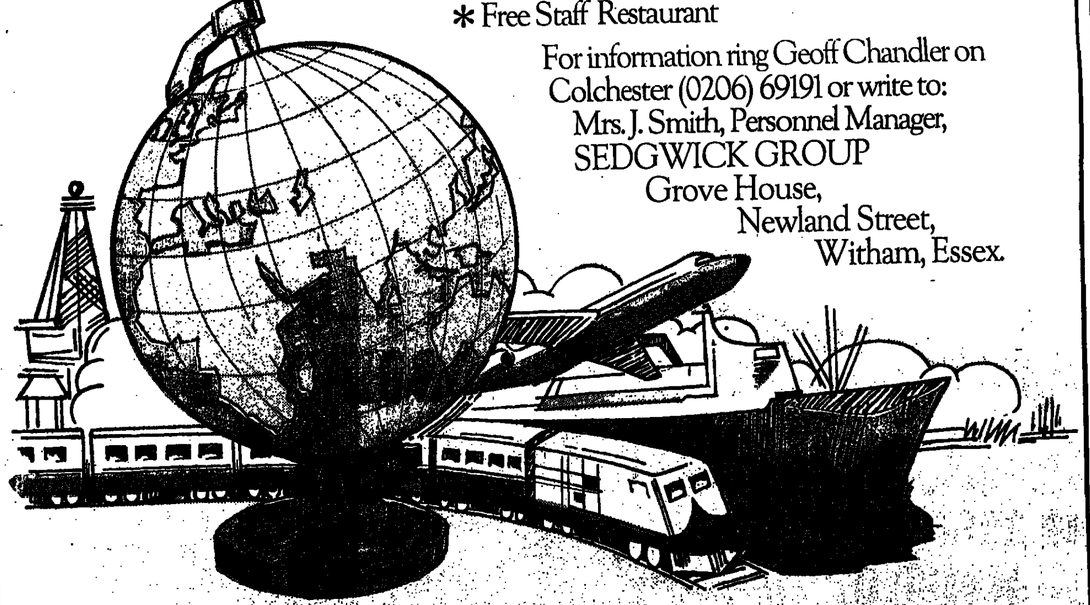

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Ref CW 23/80

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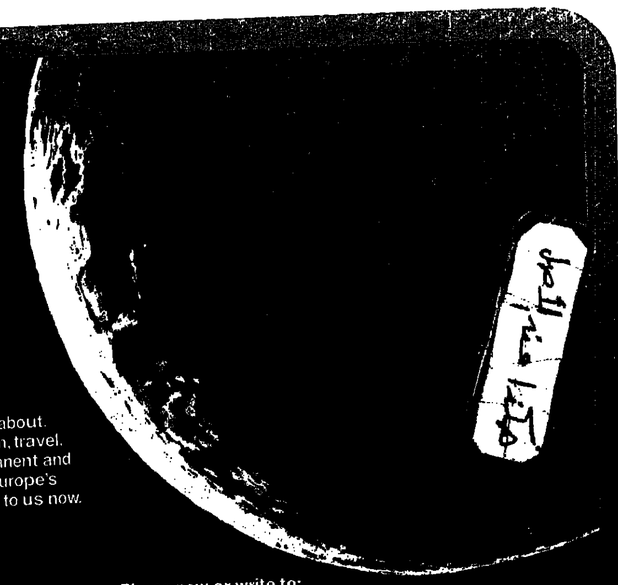

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...OF LONDON

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...COUNTRY

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PROGRAMMERS
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Cobol IDS & TDS
SYSTEMS PROGS
GCOS LEV 8 Assembler
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PROGRAMMERS
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PROGRAMMER
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ANALYSTS
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BENEFITS. Excellent Pension Scheme. Relocation expenses.
Ref: CW/2404/06

SURREY — HARDWARE: Burroughs 3700 — TO: £8K
POSITION
ANALYSTS
Any mainframe, programming experience an advantage.
BENEFITS: Relocation expenses where applicable
Ref: CW/2404/15

BERKSHIRE — HARDWARE: IBM 370 — TO: £7K
POSITIONS
ANALYST
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BENEFITS: Relocation expenses where applicable
Ref: CW/2404/31

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c £6,500 + review in June

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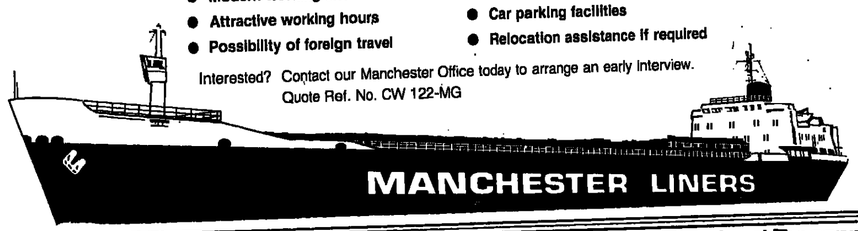

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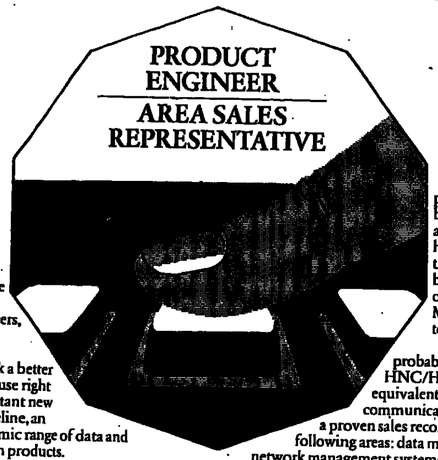

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SYSTEMS PROGRAMMERS

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To work with user departments on the feasibility, analysis and implementation of defined applications within a vigorous development programme. The Analyst will be supported by the Database Designer in the design of the planned extensions of the database. The analyst will be expected to have at least 2 years systems experience, with one significant system implemented, and a good educational background. Involvement with on-line or database systems would be advantageous, but any necessary training will be given.

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To control a project team of analysts and programmers responsible for both development and maintenance of systems. Proven systems experience, at least 2 years, with previous DP experience as a programmer is preferred, and a good educational background is necessary. Applications covered by the installation are wide-ranging and commercial or financial experience will be relevant.

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Working closely with a Senior Analyst and leading a small team of programmers, this position requires good, technical programming experience. At least 2 years working with, preferably, IBM mainframes, in ASSEMBLER and COBOL, with a knowledge of CICS.

SENIOR SYSTEMS PROGRAMMER — **To £9,480 + 27 days holiday + Other Benefits**

This position has responsibility for the evaluation of all software, including operating systems and commercial packages and for the implementation of new systems software within the installation. Technical experience must include in-depth ASSEMBLER, DOS/VS and CICS. People responsibility must be accepted for a small team and some supervisory experience will be necessary. Any necessary training will be given in new software techniques, such as VSE, VM and VOLLIE.

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For further details please phone:
Mr. G. W. Roser
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041-248 2988, extension 254

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Applicants must have a minimum of 2 years' COBOL experience, preferably on ICL 1900 series. A knowledge of PLAN, COMMS. MANAGER and DRIVER would be advantageous.

The appointment offers the following benefits:
— Removal expenses and lodging allowance (where appropriate)
— 24 days' annual leave + 12 days' public holiday
— Flexible working hours
— Opportunity to work on real-time applications
— Opportunity to work on new range machine (evaluations currently taking place to replace existing ICL 1902T).

Please write or telephone for an application form and further information to the Treasurer, Walsall Metropolitan Borough Council, Civic Centre, Walsall WS1 1TW (telephone Walsall 21244, ext. 2824).

Closing date for receipt of applications: 9th May, 1980.

(643)

FIELD ENGINEERS

Documation – the fifth fastest growing manufacturer in the computer industry, with a growth rate of 70 per cent and still rising – is looking for field engineers.

These are required to service Documation's range of IBM plug-compatible printers – which includes the world's fastest impact line printer – in London and the Midlands. Usual large company benefits apply, including company car, free BUPA membership and life insurance. If you are interested in finding out more about these openings, informal interviews will be held on:

– Tuesday, 29th April, at the Royal Garden Hotel, Kensington. 12 noon to 9 PM.
– Wednesday, 9th May, at the Post House Hotel, Great Barr, Birmingham. (Off exit 7 on M6.) 12 noon to 9 PM.

If you are unable to attend, please telephone Maureen Day on 01-898 1821 to arrange an interview.

Documation Limited: 13 Mount Road, Hanworth, Feltham, Middlesex TW13 6AR.

DOCUMATION

Computer Programmer

Forestry Commission Research Station
Alice Holt Lodge, Farnham, Surrey

. to join a small team in the Statistics and Computing Branch, providing programming support for Forestry Commission research on the growing, protection from pests, and planned harvesting of trees. The computer programmer appointed will assist statisticians and other programmers with the writing and application of mathematical and statistical software, and will develop data bases so that enquiries can be quickly answered. The work will involve programming in FORTRAN PASCAL and BASIC and use of a PRIME 400 linked to other larger computers.

Candidates, normally aged under 27, should have a Degree or equivalent, preferably in mathematics, some knowledge of statistical methods and knowledge of FORTRAN. Computing experience, particularly with PRIME mini-computers, would be advantageous. Appointment as Scientific Officer £3590-£5485 with starting salary according to qualifications and experience. **Salaries under review.** Promotion prospects. Non contributory pension scheme.

For further details and an application form (to be returned by 9th May, 1980) write to Mr A J Freeman, Personnel Branch, Forestry Commission, 231 Corstorphine Road, Edinburgh EH12 7AT. **Please quote ref. SA/14/DM.**

(686)

Scientific Civil Service

YORKSHIRE WATER AUTHORITY
SOUTHERN DIVISION

COMPUTER OPERATIONS SUPERVISOR

G5 (£5421-£5805) Pay Award Pending
Ref. No. S14/80

Applications are invited for the above post based at Castle Market Building.

The successful candidate will be responsible for the effective control of the Computer Operations Section including allocating and checking work, maintaining the scheduled time table of computer operations, liaising with user sections and the computer centre and supervising and training the five operations staff. Duties include operating the ICL 7503 computer terminal which is connected to the Authority's ICL 2970 computer located at Bradford, and data preparation equipment as required. During the next few months it is planned to replace the existing computer terminal and card punch and verifier machines with Mohawk Data Services series 21 key to diskette and terminal equipment and experience of this or similar equipment would be advantageous.

Candidates should have proven experience in staff supervision and operation of computer terminal and data preparation equipment.

Applications quoting Ref. No. S14/80 and stating age, qualifications and experience should be sent to the Division Director, Yorkshire Water Authority, Southern Division, Castle Market Building, Exchange Street, Sheffield S1 1UB, to arrive not later than 30th April, 1980.

(614)

UMRCC

University of Manchester Regional Computer Centre
Director: Professor G. Black

UMRCC is a national centre providing a general service to over thirty universities in the United Kingdom. This is currently based on two Control Data 7600 computers each front-ended by an ICL 1900. A CDC CYBER 72, soon to be replaced by a CYBER 170/720, accessed by over a hundred terminals provides an interactive computing service to Manchester users.

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Ref: 72/80/CW.

PROGRAMMER/

Salary scale: £4042 to £8769 p.a. depending on age and experience
Ref. 73/80/CW.
Develop and support NEW networking systems. Real time systems or data communications experience required.

OPERATING SYSTEMS PROGRAMMER/ SENIOR PROGRAMMER

Salary scale: £5052 to £10484 p.a. depending on age and experience.
Ref: 74/80/CW.

PROGRAMMER

Salary scale: £4402 to £6399 p.a. depending on age and experience
Ref: 75/80/CW.
Develop and support operating systems for future NEW mainframes. Systems programming experience required.

INTERACTIVE SYSTEMS GROUP

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Salary scale: £4402 to £8769 p.a. depending on age and experience.
Ref: 76-80/CW.
Develop and support a NEW Cyber 170/720. Systems programming experience desirable.

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Salary scale: £8427 to £10484 p.a. depending on age and experience.
Ref: 77/80/CW.

COMPUTER OFFICER (2 posts)

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Ref: 78/80/CW.
Develop and support a NEW microprocessor service. Microprocessor hardware and software experience desirable.
Applicants for all posts should be educated to degree standard.

Benefits include, a good pension scheme and generous holiday entitlement.

If you would enjoy the challenge of working in a stimulating environment with the prospect of a rewarding career, send for further information and an application form (returnable by 22nd May, 1980) to The Registrar, University of Manchester, Oxford Road, Manchester M13 9PL, quoting the appropriate reference.

SYSTEMS ANALYSTS

Are you burning with ambition?
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Responsible for forward planning, systems and program design. Reference PS/616901(705).

These vacancies are in our systems planning section whose activities cover a wide range of computer applications from dedicated real time to commercial type data processing, mainly on Univac 1100 series main frame computers.

The salary ranges for these positions include £751 Inner London Weighting and the benefits are those normally associated with a large progressive organisation. These posts are open to men and women.

For further information please telephone Alan Southgate on 01-831 6272 ext 4145 or write with full details of age, qualifications and experience quoting the above references, to the Senior Personnel Officer, (Hinckley) British Gas, 59 Bryanston Street, London W1A 2AZ.

The closing date for applications 28 April 1980.

BRITISH GAS

WANG

P T Metrodata, a representative for Wang Computers and Word Processing Systems has over one hundred computer installations in Indonesia, and because of the extremely rapid growth during 1979 (sixty plus systems) we require an

EXPERIENCED SUPPORT ENGINEER

to train and support local engineers in board repair and maintenance of CPUS and peripherals.

Therefore, if you have plenty of experience in the above areas and you wish to expand on it, we would like to hear from you. In return we can offer you a salary around 20,000 U.S. dollars per annum, car, house, return air fares to the U.K. for you and your family plus plenty of work.

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Telephone R. C. Thompson (Management Services Officer on 061-736 5843, Ext. 7176 for further information or apply in writing to the Registrar, University of Salford, Salford M5 4WT, giving details of your salary, age, education and experience by 6 May, 1980, quoting reference number A/667/CW. (604)

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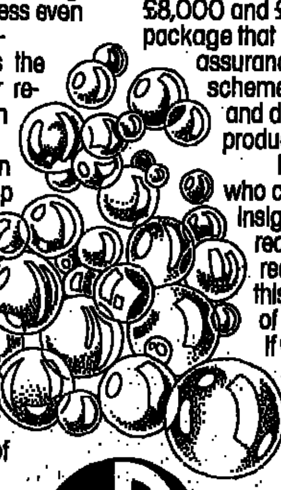

The person we have in mind will have at least five years' experience in the computer industry, and will ideally have worked on sales, order processing and accounting systems in a fast-moving consumer goods company.

With that kind of background, you'd be in line for a salary of between £8,000 and £8,500, and a benefits package that includes free life assurance, contributory pension scheme, subsidised canteen and discount on Group products.

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If you're seriously interested, phone Mark Parker on 01-580 2030. Or write to him at Colgate-Palmolive Limited, 76 Oxford Street, London W1.

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(627)

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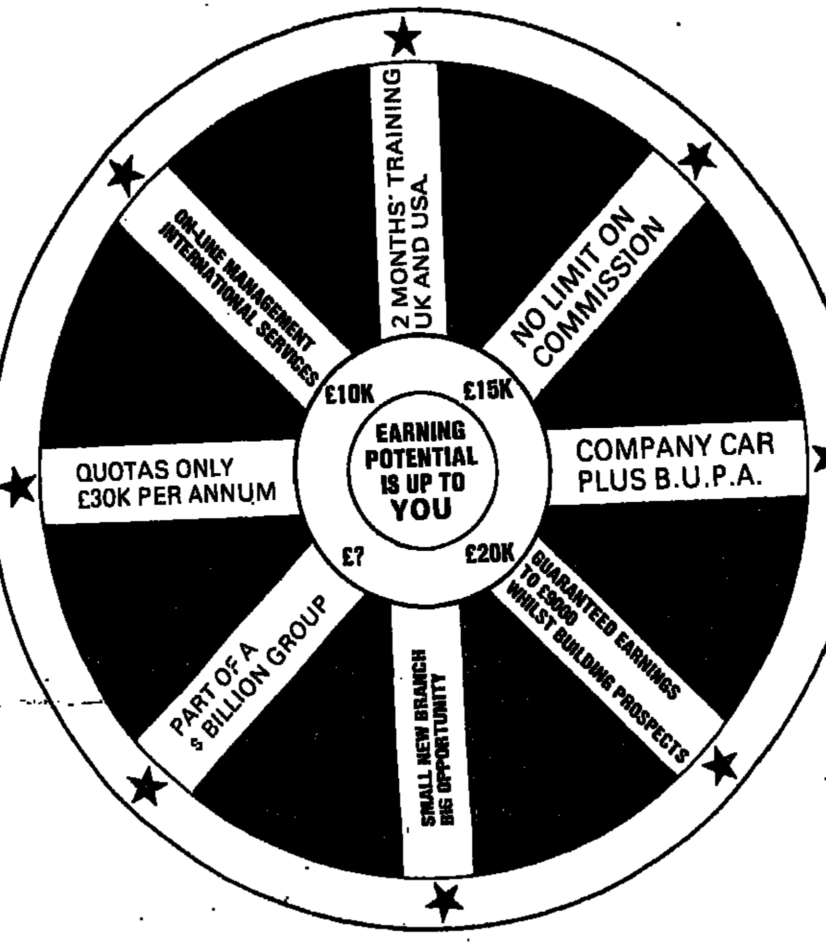

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The salary for the above post is in accordance with the current Burnham Further Education Award, and is at present:
Lecturer II £6,214-£8,094
which includes the London area allowance. Additions to the scale may be made for appropriate qualifications and the point of entry is dependent on previous relevant experience.

Further details and application form may be obtained from the Vice-Principal, to whom completed forms should be returned.

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Salary Negotiable from £7,600 p.a. upwards

Required for O and M Section of a multi-disciplinary Management Services Unit of a large Public authority.

Applicants should be graduates and/or have a full professional qualification together with three years in O & M/Business Systems including a record of achievement in two of the following:

- Cost reduction exercises;
- Management information systems;
- Office Machinery particularly electronic equipment;
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- Organisation analysis;
- Assessment of staff numbers.

Other related experience (for example work study, computer management/administration) desirable. Preferred age 28 to 40.

Write fully to the Head of Personnel Services, London Borough of Croydon, Taberner House, Park Lane, CR9 3JS.

For further details phone Mr. Alan Older, O and M Manager, 01-686 4433, Ext. 2308. (267)

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We offer a successful environment because after many years' experience of running conventional batch processing systems on a large scale, we have just completed the first phase of a conversion program which has moved us from application files to database, and from bulk data transmission to distributed databases updated on-line.

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If you can offer at least 3 years' systems analysis and design experience, and have implemented at least 1 substantial system, preferably in the areas of either accounting or production planning and inventory control, then we would like to talk to you about joining our team as a Project Leader or Project Manager.

Major company benefits include participation in Glaxo Group profitability, a non-contributory pension scheme and relocation assistance if appropriate.

Candidates, male or female, should telephone or write, quoting ref. QEU.230, to Bill Presley, Company Systems Development Manager, Glaxo Operations UK Ltd., Greenford Road, Greenford, Middlesex. Tel: 01-422 3434, ext. 91, or telephone ext. 340 for an application form.

(758)

GLAXO OPERATIONS

UNIVERSITY COLLEGE HOSPITAL

COMPUTER OPERATOR

to work in the Chemical Pathology Department on the daily operations of an on-line Laboratory Computer System which is undergoing further development.

The system is based on a Modular 1 computer with disc backing store and multiple terminals. The job offers considerable responsibility, and the successful applicant will be expected to be able to work to time schedules and to adopt a disciplined and professional approach to his/her work.

Applicants should preferably have experience of computer operating, in a real-time environment.

Starting salary dependent on experience on scale £3,295-£5,935 (inclusive of London Weighting) plus 10% shift allowance.

Application forms and further information can be obtained from the Personnel Department, University College Hospital, Gower Street WC1E 6AU. Tel: 01-387 9300, Ext. 381, quoting reference CW/CO/JP.

(Closing date 10 days after appearance of advertisement).

(856)

ICI Central Toxicology Laboratory

This Laboratory provides advisory and experimental services to ICI Limited, for the control of toxic hazards in manufacturing processes and in other fields of growing importance, such as the development of pesticides and food additives. The provision of toxicological information, prior to product clearance and registration in many countries, is a major activity undertaken by the Laboratory on behalf of the ICI Group.

Operations Controller-Computer Services Group

The Central Toxicology Laboratory is introducing a data handling scheme to store and analyse the data generated by the toxicity tests it carries out for Divisions. The Job Holder will be responsible for the secure operation of the system which is based on a Data General M600 mini computer. This will include the supervision of other operating staff. He/she will also be involved in the development of the operations environment of the new system and in the use of computer hardware throughout the Laboratory. He/she will also advise users on the system facilities.

Candidates should have an engineering (or computer science or similar) degree (or equivalent) and previous working experience in a mini-computer environment with on-line systems. Supervisory and administrative experience is also necessary. The appointment offers an opportunity for managerial involvement with a rapidly expanding innovative mini-computer installation both in terms of hardware and software.

The salary for this vacancy is around £5200 in addition to which there is a Productivity Bonus and Profit Sharing Scheme. A contributory Pension Scheme is in operation and, after joining, staff receive a reasonable refund of removal expenses.

You would be working two miles south of Alderley Edge on the A34 between Manchester and the Potteries on a 300 acre site which the Laboratory shares with ICI's Pharmaceuticals Division. Alderley Edge is less than 20 miles from Manchester and is within easy reach of the Derbyshire Peak District, the Lake District and the North Wales Coast. Staff working at Alderley live over a wide area but mainly in the Macclesfield and Alderley Edge/Wilmslow area.

Applicants, male and female, should telephone or write for an application form (quoting reference OC/SS/JM) to:

Mr. R. A. Blain,
Assistant Personnel Officer,
ICI Central Toxicology Laboratory,
Imperial Chemical Industries Ltd.,
Alderley Park,
Nr. Macclesfield,
Cheshire SK10 4TJ.

Telephone: Alderley Edge (0625) 582711.

Closing date for applications: 8th May 1980.

Overseas candidates should only apply if they have a planned visit to the UK within the next two months.

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784

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Our client is a highly successful multi-national company operating throughout the world using IBM mainframes and sophisticated minis. Their international systems are developed and implemented from their headquarters in the U.K.

The company has successfully developed and implemented IMS database systems and are now looking to strengthen the Database Administration function.

The successful candidate will have the opportunity to:
- Become actively involved in all aspects of database design, creation, auditing, error recovery and also data dictionary techniques.
- Receive extensive on-going training.
- Expand their knowledge of database techniques within a professional and stimulating environment.

The successful candidate must have:
- At least three years' data processing experience including programming in COBOL on an IBM mainframe under OS, preferably with some IMS experience.
- The ability to relate to users and analysts both on a technical and personal level.

This position provides significant career development as the company has an increasing commitment to the use of databases. Large company benefits apply to this position and, where necessary, assistance will be given with relocation.

For more details contact Yvonne Warren quoting ref. YW 2628.

Lloyd Chapman Associates

123, New Bond Street, London W1Y 0HR 01-408 1670

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Consulting Engineers

PROGRAMMER

The Research and Development section now has a vacancy for a FORTRAN programmer to aid the services given to our engineers. The successful candidate, male or female, should be either a programmer interested in engineering applications or an engineer with computing and programming experience. The post includes assisting engineers running standard packages e.g. GENESYS and developing in-house software. The section has its own PRIME 300 mini-computer and also makes use of bureaux.

Salary will be negotiable.

For further details of our complete employment package please submit a detailed CV to:

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Personnel Officer
Sir Frederick Snow & Partners
Ross House
144 Southwark Street
London SE1 0SZ

SYSTEMS ANALYST

Edinburgh — up to £7,392

Scottish Gas has a vacancy which would be suitable for persons with two years' experience as a Systems Analyst or an Analyst/Programmer. The post will be located at Granton House, Headquarters in Edinburgh.

We have a large portfolio of existing batch and on line computer systems, and are currently designing new applications using a number of different types of equipment. A period of steady growth of demand for new computer systems, both local and remote is expected.

We are more interested in your adaptability and motivation to contribute effectively to our development programme than in the type of machine experience you have.

Salary is on a scale from £6,428 to £7,392 per annum plus the benefits normally associated with a large organisation including a choice of staff restaurant facilities, sports and social activities.

The department operate flexible working hours. Re-location expenses will be refunded where applicable.

Write with a full C.V. to: Appointments Officer, Scottish Gas, 4 Marine Drive, Edinburgh EH5 1YB. Ref. 4305 or phone for an application form 031-552 6271 ext. 251.

SCOTTISH GAS

Senior Systems Analysts — Tripoli

£12,000 to £15,000 p.a. Tax free + benefits

Oasis Oil has grown rapidly from a small exploration operation to one of the largest oil producers in the world today. At the moment we urgently require two Senior Systems Analysts.

Applicants should have 8-10 years experience in Computer Systems Analysis and Programming (commercial applications) including major systems design efforts, a sound practical knowledge of ANS COBOL and familiarity with OS/VS, VSAM and IBM S/370 [illegible] Power Operating Systems.

The successful applicants will be required to work completely independently with no outside assistance.

Our system comprises of an IBM 370/135 512K core, disk and tape peripherals and terminal 3270 series.

Our major programming languages are ANS/COBOL and MARK IV, with occasional use of Fortran and Assembler.

The Oasis benefit package includes
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Please write for an application form to the address below giving a brief resumé of your career and personal data.

OASIS OIL COMPANY OF LIBYA, INC.,
33, Cavendish Square, London W1M 9HF.

WORCESTER CONTROLS (UK) LIMITED
Burrell Road, Haywards Heath, Sussex
Require a

SYSTEMS PROGRAMMER

who will receive a salary up to

£8,500 p.a.

Applicants must have had a minimum of two years' IBM Assembler programming experience furthered by a minimum of one year systems programming experience in a DOS/VS, CICS/VS environment.

We are just completing our conversion to an IBM 370/138 and will shortly start a number of new projects that will require the assistance of an expert Systems Programmer. New projects over the next two years will include an extension to our TP system, conversion to DOS/VSE, installation of POWER/VS, implementation of an on-line programming aid, examination of data-base Management Systems and a possible switch to COBOL applications programming.

Should you feel that you can handle the above work-load as part of a small dynamic team then apply, in the first instance, to:

Margaret Jury, Personnel Administrator
Tel. Haywards Heath 51581

(674)

SYSTEMS ANALYSTS	**LONDON & CITY**	**to £9500**
Self-starters. Commercial and/or General Accounting experience.		Bill
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Senior Programmer Analysts will be retrained		Peter
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Must be experienced in IBM Assembler or PL1. Company uses CICS, Real Time, Data Base.		Bill
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PROGRAMMER/ANALYSTS	**MIDDLESEX**	**£6500 review imminent**
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COBOL programming + analysis experience.		
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SYSTEMS ANALYST	**NR. REDHILL**	**C. £7,000**
PROGRAMMERS	**S.W.1**	**C. £8,000**
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Please send in full career details or telephone for an application form.

AMES PERSONNEL

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(987)

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You should be prepared to work a shift system and have at least 2 years' experience with IBM 360/370 hardware. Familiarity with OS/VS operating systems is desirable.

Please write, giving full details to the Personnel Manager, SEGAS, SEGAS House, Katharine Street, Croydon CR9 1JU, quoting reference no. 0.6986.

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Initial contracts will be for 12 months and we are interested only in applicants who are prepared for at least that period. If you have experience with Honeywell Level 6 IBM 8100, DEC TDP's or SIEMENS 6000 Machines contact us for further information.

Salaries will be in excess of 100,000 Dutch Gilders P.A.

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Location: Germany

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For systems design, experience in commerce or industry, as analyst or designer, in a team implementing computer based systems is required, and for computer studies, experience in other relevant fields will be considered. Research and consultancy in appropriate areas are encouraged.

Applicants should possess an honours degree or equivalent professional qualification. Membership of the British Computer Society together with good basic qualifications may be acceptable.

Application forms and further particulars from:

The Administrative Officer (Personnel), Napier College of Commerce and Technology, Colinton Road, Edinburgh EH10 5DT.

(693)

COMPUTER OPERATIONS MANAGER

£7,624-£8,334 — Weybridge

For Brooklands Technical College, Heath Road, to take charge of the day-to-day running of the new UNIVAC V77/600 192K, 12 terminal multi-access system which will provide a service to the College in respect of existing specialist computer courses and support for many others.

The Post should suit a man or woman who has previous experience as an analyst/programmer and now wishes to develop management expertise.

Benefits include generous assistance with relocation, 22 days paid leave per annum and a pleasant environment in which to work, with an experienced team of computing staff.

Further details and an application form from the Chief Administrative Officer, but people wishing to discuss the Post beforehand should telephone Mr Alan B[illegible], Weybridge 53300, extension 247.

(590)

SURREY COUNTY COUNCIL

PROGRAMMER/ANALYST

North Sea Oil Aberdeen

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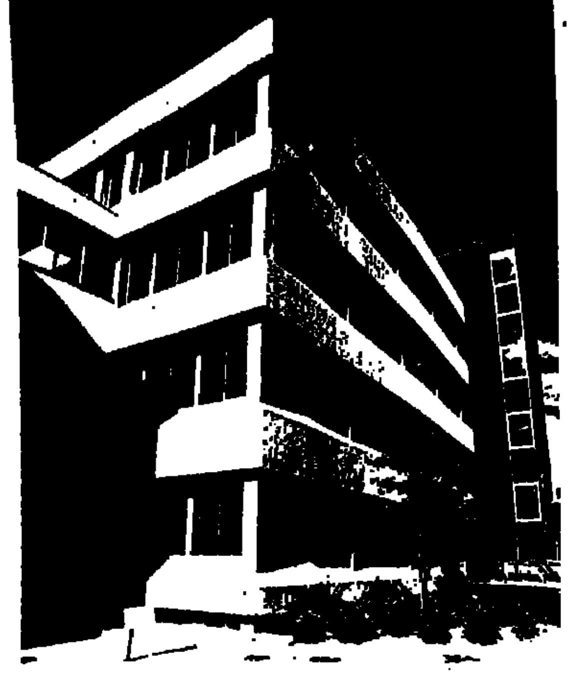
As an integral part of a small team, the primary duties will be to initiate and implement programme systems in liaison with the appropriate user departments, develop test data and operating instructions, document programmes in modular fashion and, assist in systems analysis and design when required.

The person we appoint will have at least four year's experience in business systems programming including financial and/or material management systems in a commercial environment. Experience with I.B.M. 370/158 or larger processor, J.C.L. and COBOL is essential.

The rewards package is excellent and includes a competitive salary, free life assurance, contributory pension scheme and assistance with relocation expenses where appropriate. In addition, you will find a stimulating working atmosphere where initiative, flexibility and enthusiasm are actively encouraged.

If you want to find out more about a rewarding career in a major growth area, please write with brief personal and career details to
Mr. R. A. Grant, Personnel Officer, Occidental Petroleum (Caledonia) Ltd., 127 Causewayend, Aberdeen, AB2 3TP



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SYSTEMS ANALYST

£6,636-£7,077 per annum

SENIOR PROGRAMMER

£5,973-7,077 per annum

The Authority has taken delivery of an ICL 2972 Computer and the above staff are required to join project teams actively working on the transfer of systems to this machine.

Applicants for the Systems Analyst vacancy should preferably have a minimum of one year's systems analysis experience. Commencing salary is dependent on qualifications and experience, and progression beyond £7,077 will be subject to experience and competence to perform work at a higher level.

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- ★ National Conditions of Service.

Application forms (to be returned by 9th May, 1980) and further particulars are obtainable from the County Treasurer, Mid-Glamorgan County Council, County Hall, CARDIFF.

CANVASSING WILL DISQUALIFY (669)

SYSTEMS PROGRAMMER

For Univac 1100

Hinckley — Up to £8,075

We require a Systems Programmer to join a small team providing software support for our UNIVAC 1100 systems. The hardware consists of a UNIVAC 1106, together with a recently installed 1100/11.

The system is used in connection with control of the Natural Gas Transmission System and also provides some bureau services to British Gas Headquarters, primarily for engineering and planning applications.

The post, based in Hinckley, Leicestershire, involves the maintenance and development of the UNIVAC 1100 Operating System and other standard UNIVAC and in-house software, and support to the Operations Section and to computer users.

Applicants should ideally have two years' experience as a Systems Programmer using a low-level language, preferably on UNIVAC 1100 systems, though applications programmers or systems programmers on other computer ranges wishing to widen their experience would also be considered.

Salary is within the range £6,428 – £8,075. The benefits normally associated with a large progressive organisation will also be provided.

Hinckley is in a low cost housing area within easy reach of pleasant countryside, and by convenient motorway access to the large city amenities of Leicester, Coventry and Birmingham. Relocation expenses will be paid where appropriate.

Please write giving full details of age, experience, qualifications and current salary, quoting reference PS616801(705) to the Senior Personnel Officer, (Hinckley), British Gas, 59 Bryanston Street, London W1A 2AZ.

BRITISH GAS (736)

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(528)

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SHEFFIELD CITY POLYTECHNIC
DEPARTMENT OF COMPUTER SERVICES

SENIOR APPLICATIONS PROGRAMMER

Post No. 256

SENIOR SYSTEMS PROGRAMMER

Post No. 258

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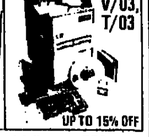

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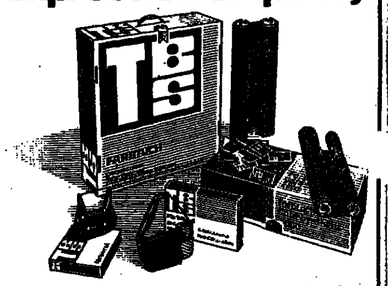

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